



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/720,632 | 11/24/2003 | Carlo Rubbia | 1814-001P/JAB | 4255 |

7590 06/30/2004
Jay A. Bondell, Esq.
SCHWEITZER CORNMAN GROSS & BONDELL LLP
292 Madison Avenue
New York, NY 10017

EXAMINER

COCKS, JOSIAH C

ART UNIT PAPER NUMBER

3749

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,632

Applicant(s)

RUBBIA ET AL.

Examiner

Josiah Cocks

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/13/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings filed on 2/27/2004 are accepted by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by *Caplan* (US # 3,841,738) (cited by applicant).

Caplan discloses a solar concentrator module with a bidimensional parabolic profile geometry as described in applicant's claim 1 including rigid panels (40) having a parabolic cross-section a rectilinear longitudinal extension and a thin reflecting surface mounted to the panel (see Fig. 4), the reflecting surface having a geometry to concentrate incident radiation of the sun along a longitudinal axis corresponding to an axis of symmetry of a receiving tube (32) within which a fluid to be heated by the incident radiation is flowing (see Fig. 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3749

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2, 3, 7, 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Caplan* as applied to claim 1 above in view of *Gounder* (US # 4,394,529).

Caplan also discloses that his solar concentrator includes a paper honeycomb core (48, see Fig. 3) with two paper outer skins (46 and 47) with a thickness of .381 mm to .889 mm (see col. 6, lines 24-32) (1 inch = 25.4 mm). *Caplan* also discloses that a reflective material (43) is attached by suitable adhesive (see col. 50, lines 51-60) and that this reflective material may be metal foil (see col. 6, lines 22-24). *Caplan* further discloses the use of glass fiber sheets (50, see col. 7, lines 1-6) and that the honeycomb structure has a constant thickness (see Fig. 4). This solar concentrator/collector is used in a solar plant (see col. 8, lines 9-19).

Art Unit: 3749

Caplan possibly does not disclose that the outer skins made of a high resistance material or specifically steel, a honeycomb central core made of aluminum, or the specific thickness of 25 mm for the core.

Gounder teaches construction of solar panel with the focus on making the panel lightweight. *Gounder* is considered to be analogous art to *Caplan*. *Gounder* teaches a honeycomb core surrounded by two outer skins (32 and 24) where the honeycomb core is made of aluminum. While *Gounder* selects Kevlar material for his outer skins he notes that various other skin material may be or have been considered and that the skin material is selected based on desired structural and thermal properties (see col. 1, lines 49 through col. 3, lines 48). The examiner considers that a person of ordinary skill in the art would consider that the selection of a specific skin material, such as steel, and a specific honeycomb or skin thickness would simply be a matter of optimizing the material and thicknesses identified in the prior art. The sizes and materials claimed by applicant would be obtainable through routine experimentation and are not regarded to patentably distinguish over the prior art of record. (See MPEP § 2144.05(II)(A)).

Therefore, in regard to claims 2, 3, 7, 8, 9, and 11, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the honeycomb and skin structure of *Caplan* to incorporate the structure of *Gounder* for the desirable purpose of forming a lightweight but stiff supporting structure (See *Gounder*, col. 3, lines 35-48).

7. Claims 4, 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Caplan* as applied to claim 1, and *Caplan* in view of *Gounder* as applied to claims 2, and 3 above, and further in view of *Zaugg et al.* (US # 4,116,221).

Caplan and *Caplan* in view of *Gounder* teach all the limitations of claims 4, 6, and 10 except for means for rotating to follow the motion of the sun and an array of modules where a single motor is positioned at a half length of a support to rotate the array.

Zaugg et al. teaches a solar collecting/concentrating apparatus including an array of modules that are arranged to be rotated to follow the motion of the sun by means of a centrally located motor (12).

Therefore, in regard to claims 4, 6, and 10, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the collector/concentrator of *Caplan* to incorporate the rotating motor of *Zaugg et al.* for the desirable purpose of causing a plurality of collectors to track the motion of the sun to guarantee precise focusing of the solar radiation over the lengths of the collectors (See *Zaugg et al.*, col. 1, line 59 through col. 2, line 6).

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Caplan* in view of *Gounder* and *Zaugg et al.* as applied to claim 4 above, and further in view of *Gonder* (US # 5,069,540).

Caplan in view of *Gounder* and *Zaugg et al.* teach all the limitations of claim 5 except that the honeycomb structure has a variable thickness, which decreases from a parabola apex.

Gonder teaches a collector in the same field of endeavor as *Caplan* wherein the collector of *Gonder* includes a core structure that decreases from a parabola apex towards longitudinal edges (See Fig. 8-10).

Art Unit: 3749

Therefore, in regard to claim 5, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the core shape of *Caplan* to incorporate that of *Gounder* as this shape is understood in the art to form a reflector body that is an integral, self-supporting unit (see *Gounder*, col. 3, lines 60-63).

Conclusion

9. This action is made non-final. A THREE month shortened statutory period for reply has been set. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) months from the mailing date of this communication.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Stang, Hopper, Gessford, Duchateau et al.*, and JP 2002-225161 are included to further show the state of the art concerning solar devices including honeycomb cores and outer skins.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (703) 305-0450. The examiner can normally be reached on weekdays from 7:30 AM to 5:00 PM.

Art Unit: 3749

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached at (703) 308-1935. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

jcc
June 24, 2004



JOSIAH COCKS
PRIMARY EXAMINER
ART UNIT 3749